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CLEAN VERSION OF PENDING CLAIMS

ENCAPSULATION OF PIN SOLDER FOR MAINTAINING ACCURACY IN PIN POSITION

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1. A method for use in assembling a microelectronic circuit package, comprising:
providing a package substrate;
applying a polymer material to a surface of said package substrate;
attaching pins to said package substrate, through said polymer material, by solder reflow;
and
allowing said polymer material to cure about solder joints associated with said pins.
2. The method of claim 1, wherein:
attaching pins includes placing solder elements in the polymer material in desired pin
locations.
3. The method of claim 2, wherein:
said solder elements include solder balls.
4. The method of claim 2, wherein:
attaching pins includes pressing a pin toward said package substrate at the location of a
solder element.
5. The method of claim 2, wherein:
attaching pins includes using a jig to press multiple pins toward said package substrate at
the locations of solder elements.

6. The method of claim 1, wherein:
applying a polymer material includes screen printing said material on said surface.
7. The method of claim 1, wherein:
attaching pins to said package substrate includes placing said pins in a jig and applying pressure to said jig at a temperature that equals or exceeds a melting temperature of the pin solder so that the pins are pressed through the polymer material.
8. The method of claim 1, wherein:
said polymer material includes a no flow material.
9. The method of claim 1, wherein:
said polymer material has fluxing capabilities.
10. (Amended) A method for use during fabrication of a microelectronic device package, comprising:
providing a package substrate having a plurality of contact pads on a surface thereof;
attaching individual pins to said plurality of contact pads by solder reflow; and
selectively applying an encapsulation material about solder joints associated with said individual pins, said encapsulation material to maintain a location of said individual pins on said package substrate during subsequent high temperature processing.
11. (Amended) The method of claim 10, wherein attaching individual pins includes:
placing said individual pins in a jig;
applying solder to at least one of the following: said individual pins and said contact pads;
aligning said jig with said package substrate; and

applying pressure to said jig at a temperature that equals or exceeds a melting temperature of said solder.

12. The method of claim 10, wherein:
applying an encapsulation material includes applying a no flow material.
13. The method of claim 10, wherein:
said encapsulation material includes at least one of the following: an epoxy-based material and a polyimide-based material.
23. A method for use in assembling a microelectronic circuit package, comprising:
applying a polymer material to a surface of a package substrate;
attaching pins to said package substrate, through said polymer material, by solder reflow;
and
allowing said polymer material to cure about solder joints associated with said pins.
24. The method of claim 23, wherein:
attaching pins includes placing solder elements in the polymer material in desired pin locations.
25. The method of claim 24, wherein:
said solder elements include solder balls.
26. The method of claim 24, wherein:
attaching pins includes pressing a pin toward said package substrate at the location of a solder element.

27. The method of claim 24, wherein:
attaching pins includes using a jig to press multiple pins toward said package substrate at the locations of solder elements.
28. The method of claim 23, wherein:
applying a polymer material includes screen printing said material on said surface.
29. The method of claim 23, wherein:
attaching pins to said package substrate includes placing said pins in a jig and applying pressure to said jig at a temperature that equals or exceeds a melting temperature of the pin solder so that the pins are pressed through the polymer material.
30. The method of claim 23, wherein:
said polymer material includes a no flow material.
31. The method of claim 23, wherein:
said polymer material has fluxing capabilities.
32. A method for use during fabrication of a microelectronic device package, comprising:
attaching individual pins to a plurality of contact pads on a surface of a package substrate by solder reflow; and
selectively applying an encapsulation material about solder joints associated with said individual pins, said encapsulation material to maintain a location of said individual pins on said package substrate during subsequent high temperature processing.
33. The method of claim 32, wherein attaching individual pins includes:
placing said individual pins in a jig;

applying solder to at least one of the following: said individual pins and said contact pads;
aligning said jig with said package substrate; and
applying pressure to said jig at a temperature that equals or exceeds a melting temperature of said solder.

34. The method of claim 32, wherein:

applying an encapsulation material includes applying a no flow material.

35. The method of claim 32, wherein:

said encapsulation material includes at least one of the following: an epoxy-based material and a polyimide-based material.